

MIG Transit Sprayer 135

INSTRUCTIONS

These instructions provide information necessary for the safe operation of the MIG Transit Sprayer. Do not attempt to install or operate the MIG Transit Sprayer and MIG Transit Spray fluid until you read, understand and comply with, all safety precautions, manual instructions and other details contained in the Material Safety Data Sheet (MSDS). Comply at all times to the safe practices prescribed in your local statutory requirements and regulations.

INSTALLATION INSTRUCTION

1. Turn off and isolate the welder's power source from the mains supply.
2. Mount the Sprayer in a **vertical** and **stationary** position, as close as practical to the gas solenoid. Usually, the Sprayer has to be mounted on the hood of the Wire Feed Unit as for this purpose are drilled the appropriate holes for connecting the Sprayer and passing by the the inlet and outlet gas hoses. Ensure that, when mounted, the Sprayer cannot be harmed or damaged by any obstructions.
3. Cut the gas hose in a position **AFTER** the gas solenoid. Purge the gas hose and ensure that there are no blockages and that they are free from foreign matter, which may damage the unit.
4. Connect the gas pipe of the Sprayer indicated ``IN`` to the released orifice of the gas solenoid through subsidiary rubber hose with internal diameter 5mm and secure with metal brackets. Connect the gas pipe of the Sprayer indicated ``Out`` directly through a bracket to the hose uncoupled from the gas solenoid.
5. Ensure all connections are tight and do not leak.
7. Remove the cap of the Sprayer. Fill the Chamber with, **80-135ml maximum** MIG Transit Spray. Then firmly screw the cap to the Sprayer.
8. Provide time for the fluid to reach the temperature of the workshop environment (this takes approximately one hour).
9. The bronze lever for fine-tuning the level of the protective mist is at a position – CLOSED. Start turning the lever to the opened position by not more than one revolution until you observe the formation of bubbles and mist above the fluid level in the transparent chamber.
10. Adjust the gas regulator to set the correct flow rate (according to the requirements of the specific welding process) measured on the outlet of the gas nozzle (12 L/min – 30 L/min). Take into consideration that in the Sprayer forms resistance of the gas flow, which reduces the output of the welding gas for approximately 2 l/min. DO NOT exceed a flow rate of 30 L/min.
11. Activate the gas tract for some seconds to remove all the air from the Sprayer. The Sprayer is ready for operation.

SAFETY REQUIREMENTS

1. The welding gas regulator (usually located on the gas bottle) must be in good working order and calibrated. Gas solenoid is usually located inside the wire feed unit of the welding machine must be in good working order too. Never operate with faulty regulator or gas solenoid.
2. The weld gun must be clean and free from contamination. It is recommended **that when first installing the MIG Transit Sprayer that a new weld gas nozzle, contact tip, gas diffuser, contact tip, holder and wire liner be used.**
3. The gas hoses to the System must be of good working condition and regularly cleaned to remove foreign matter and excess fluid, which may cause porosity or other weld defects.
4. Operational gas flow rate is between 12 l/min – 30l/min and is set with the flow meter.
5. **Always install the MIG Transit Sprayer AFTER the gas solenoid.**
6. The gas outlet of MIG Transit System must be in an **unrestricted connection** to the weld gun.
7. **Never reverse the gas lines connections** to the Unit.
8. When working with MIG Transit Spray fluid, always wear approved respirator, solvent resistant gloves, eye protection, oil resistant clothing and footwear for mist concentrations (see Material Safety Data Sheet)
9. **Do not overfill the Sprayer** or do not operate the Unit under the indicated minimum level. When necessary, refill the chamber to the 135ml maximum level marked on it. **Normaly refiling is 80 - 100 ml MIG Transit Spray.**
10. The Sprayer must be installed in a vertical position and kept stationary; it must not be installed on moving parts (throughly referring installing to welding robots).
11. **Do not use MIG Transit Spray , when welding Aluminium.**
12. The system is set for specific mist concentration according to the welding process, the rated load of the welding cycle and the environment temperature of the welding process. This defines specific levels of atomic hydrogen. If is necessary obtain expert advice as the incorrect level may affect the mechanical properties of the weld (it is referring to standard productions where there are specific requirements concerning the atomic hydrogen level).
13. **Never use substitute fluid**, MIG Transit Spray is unique and is not compatible with other anti-spatter fluids and will consequently avoid your warranty.
14. During operation with MIG Transit Spray **do not permit a contact between the product and water**, vapors or other products. This may worse its unique properties.
15. Use in well-ventilated environment or use appropriate exhaust system to remove fumes from the breathing zone.
16. Read, understand and comply with all directions and warning labels.
17. Additional safety information you may find in detailed Material Safety Data Sheet.

OPERATION INSTRUCTION

1. Only use fluid specifically designed for MIG Transit Sprayer and spare parts recommended by the producer. Using unauthorised fluid, parts or modifying the MIG Transit Sprayer in any way can cause severe damage and create a dangerous situation, voiding your warranty.
2. **Do NOT overfill the Sprayer** or operate when the Sprayer is empty. ONLY refill **80-100ml to the marked level. Refilling with 135ml MIG Transit Spray is maximum only when the chamber is empty. Don't exceed the marked level. This can embarrass the working of the Sprayer.**
3. To refill the Sprayer, carefully unscrew the cap and refill with MIG Transit Spray TM fluid to the maximum level marked on the panel usually on the left of the chamber.
4. Keep the fluid level above the minimum line marked on the Sprayer.

5.OPTIMUM ADJUSTMENT THE MIST CONCENTRATION.

A pneumatic throttle with a bronze lever for fine-tuning is mounted on the panel. The adjustment lever ensures lightly setting up the mist concentration from 0% to 100% without breaking down the gas flow. The optimum adjustment of the mist concentration depends on the specific welding process, the rated load of the welding cycle and the environment temperature (in the workshop) of the welding process.

- The higher welding processes require higher mist concentration.
- The welding process higher rated load requires higher mist concentration.
- The higher environment temperatures where is performing the welding process (mainly during the summer period and in temperatures higher than 30° C) **requires lower mist concentration.**
- The lower environment temperatures where is performing the welding process (mainly during the winter period and in temperatures lower than 15° C) **requires higher mist concentration.**
- MIG Transit Spray TM Fluid starts to freeze in positive degrees under 8 ° C. For this reason is recommendable the Sprayer to be turned off in working environment under 5° C as the adjusting lever is positioned on 0%. The action does not prevents the gas flow and the welding process can continue.
- In cases of special requirements for atomic hydrogen quantities, please advise with the company producer.

ADJUSTMENT ORDER

- The bronze lever for fine-tuning the level of the protective mist is normally closed. Start carefully turning the lever towards the opened position it while a gas line is active until you observe the formation of bubbles and mist above the fluid level in the transparent chamber. This usually occurs after the 5th or 6th revolution. Leave the adjustment this way.
- Do the welding process in set terms without changing the adjustment as you follow for sudden breaking down of arc burning (frequently breakings). If appear such kind of breakings, start to reduce the adjustment with small pitches (not more than a half revolution). Ensure process balancing time before the next adjustment change.
- If you do not see breakings of arc burning let the adjustment on this position. Remove the gas nozzle and examine the welding gun (contact tip, gas nozzle, diffusor and contact tip holder) in presence of mist visible condensation. If the contact tip and the gas distributor are dry or there is a presence of minimum condensation you must increase the adjustment according to the way referred above with small pitch. If the condensation is rich you must decrease the adjustment . Make the necessary changes with not more than a single revolution of the bronze lever for fine-tuning.
- In addition, please examine the gas nozzle. Usually, in the front part is generating a ring of welding spatters. Try to remove this ring. Its difficult elimination is indication of insufficiently adjustment of the mist concentration. Increase the adjustment with not more than a single revolution of the bronze lever for fine-tuning. Ensure welding time for balancing the process. Repeat this algorithm until the ring on the top of the gas nozzle starts to eliminate easier by hand or with materials at hand, this is indication for optimum adjusted mist concentration.

The outgoing of the gas nozzle mist concentration can be seen with an unaided eye at dark background behind it. It is light and fine. It can be seen easier at the end of the welding cycle, at the moment of cessation of the welding, when the speed of the coming out from the gas nozzle decrease too. If the mist concentration coming out from the gas nozzle can be seen with an unaided eye and without dark background – it is because its level is high and must be reduced.

- **AVOID THE MAXIMUM SETTINGS!** They are provided for exclusive cases of high rates and loads of the welding cycle, combined with low welding environment degrees. These mist concentration adjustments ensure high levels of mist concentration which can cause welding defects.

6. In cases of rich condensation which causes rough interruption in the welding arc burning, please stop the welding process immediately. Turn the bronze lever on position OFF. Activate the welding machine gas tract and purge for some minutes. Dry (wipe clean) the condensation. Start the

welding process as the bronze lever must be on position OFF. At the moment when the welding arc starts to burn normally, start over the fine-tuning from the closed position of the bronze lever.

7. Check the Sprayer regularly, check the gas lines and the connections as make sure of that the connections are firmly screwed and there are no leaks. Repair or replace any worn or suspect parts.

8. Observe all instructions and Material Safety Data Sheet requirements. If it is necessary, please contact your local distributor or the company producer.

9. These instructions must be hanged up or sticked up in immediately proximity of the position where is mounted MIG Transit Sprayer. This is necessary with the purpose to the operator of the welding robot, the operator of the automatic welding system or the welder on the welding position to be ensured the possibility for fast verifications during the working shift.